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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/862,449 | 05/23/2001 | Sung Han Kim | 1514.1002 | 8882 |

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EXAMINER

THOMPSON, CAMIE S

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| ART UNIT | PAPER NUMBER |
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1774

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/862,449

Applicant(s)

KIM ET AL.

Examiner

Camie S Thompson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on July 17, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) 2,12 and 19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-6,8,9 and 22-24 is/are allowed.
- 6) ☒ Claim(s) 11, 13-14, 18 and 20-21 is/are rejected.
- 7) ☒ Claim(s) 7, 10 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

Art Unit: 1774

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed July 17, 2003 have been acknowledged.
2. Examiner acknowledges amended claims 4-7, 9-10, 15, 18 and 22.
3. Examiner acknowledges cancelled claims 12 and 19.
4. The rejection of claims 15-17 and 22-24 under 35 U.S.C. 102(e) as being anticipated by Igarashi et al., U.S. Patent Number 6,310,231 is withdrawn due to applicant's argument and amended claims 15 and 19.

Claim Objections

5. Claims 7, 10 and 15-17 are objected to because of the following informalities:
Claims 7 and 10 are objected to because there is a period missing at the end of the claims.
Claim 15 is objected to because triarylsilphenyl is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1774

7. Claims 11, 13-14, 18 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kreuder et al., U.S. Patent Number 5,763,636.

Kreuder discloses polymers containing spirofluorene units and aryl groups that can be used for electroluminescent display devices as per instant claims 11 and 18 (see abstract; column 3, lines 45-60; columns 6-9 and column 12, lines 55-68). In addition, the Kreuder reference discloses that the organic electroluminescence display device comprises a pair of electrodes and an organic layer formed between the pair of electrodes, the organic layer comprises material formed of an aryl group and spirofluorene groups as per instant claim 18 (see column 13, lines 33-58).

Kreuder discloses that m in formula I can be 1, 2, 3 or 4 which indicates that there can be more than 1 spirofluorene group (see column 3, line 27). Additionally, Kreuder discloses that U^1 and V^1 can be $-CR^7R^8-$ are identical or different and where R^7 and R^8 are identical or different and are H, a straight chain or branched alkyl groups having 1 to 22 carbon atoms, which would read on t-butyl groups in the spirofluorene groups as per instant claim 14 and 21 (see column 2, lines 20-67). Kreuder's compounds of formula I, where m is 2, 3, or 4 read on instant claims 12 and 19 in view of applicant's arguments in the third paragraph of page 3 of paper filed February 6, 2003. The reference also discloses that the spirofluorene groups may be attached to an anthracene group. For example, see Kreuder's claim 9. When an anthracene and spirofluorene are attached to each other, steric hindrance and distortion as per instant claims 13 and 20 are inherently present. Column 10, lines 21-40 of the Kreuder reference disclose that the spirofluorene groups are perpendicular to each other in the main chain as per instant claims 11 and 18.

Art Unit: 1774

7. Claims 1, 3-6, 8-9 and 22-24 are allowed.
8. Claims 7, 10 and 15-17 would be allowable if rewritten to overcome the objections for informalities noted in this office action.

Response to Arguments

9. Applicant's arguments filed July 17, 2003 have been fully considered but they are not persuasive. Applicant argues that Kreuder does not teach or suggest that the spirofluorence groups are perpendicular to each other. Column 10, lines 21-40 of the Kreuder reference disclose that the spiro groups are perpendicular to each other on the conjugated main chain. With the spiro groups being perpendicular to one another, steric hindrance and distortion are inherently present. Therefore, the Kreuder reference meets all the limitations of claims 11, 13-14, 18 and 20-21. The Kreuder rejection is maintained. The Igarashi rejection has been withdrawn.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1774

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone number for the Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

